Phase II Storm Water Overview

Storm water Workshop

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Phase I

- Communities over 100,000 population
- Land disturbance over five acres
- Categorical industries

Stormwater Permit Criteria

Phase II - Non-municipals

- Land disturbance from 1-5 acres
- Exemptions for industries that eliminate stormwater exposure

Rule at:10 CSR 20-6.2 at (page 62):
http://www.sos.state.mo.us/adrules/csr/current/10csr/10c20-6a.pdf

Storm water Permit Criteria

Phase II - Municipals (150+ cities and counties, maybe more when 2000 census is out)

- Cities and parts of counties >10,000 pop. and 1,000/square mile (now 500)
- Smaller cities in urbanized areas

Required Local Phase II Management Components

1. Public education and outreach
2. Public involvement
3. Illicit discharge elimination
4. Land disturbance runoff control
5. Post-construction storm water management
6. Pollution prevention in municipal operations

What Must Your Plan Include?

Statement of your program goals

Statement of how you will implement the six required elements (minimum control measures)

- Who will do what, when, how, etc.

Statement of how you will "measure" the effectiveness of your program

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Local Storm water Management Components

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Working Definitions

Best Management Practices (BMPs):

Minimizing creation of impervious and impaired surfaces, soil and site disturbance; using natural covers, features and techniques; and using straw bales, silt fences, stormwater handling structures and the like to minimize soil erosion, water quality degradation and detrimental stormwater runoff.

Important Acronym

"MS4" - Municipal Separate Storm Sewer System

Storm water Facts

% Impervious Cover and its Effects

- 10% Threshold for watershed changes
- 25% Difficult to maintain streams in excellent or good quality condition
- 35% "People habitat"
- 65% "Car habitat"

Residential developments are commonly 35% impervious surfaces, with compacted soils and turf-grass on most of the rest.

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Involving Stakeholders

1. Identify them
2. Gather them by meetings, calls, Internet, etc.
3. Define your storm water goals
4. Hone your message, aim it directly at your target audience

Involving Stakeholders

5. Create outreach and information materials and other techniques
6. Get the materials/information out there
7. Evaluate effectiveness

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What is Illicit Discharge?

Anything that is not storm water.

If it is not storm water and it is a problem, it shouldn't be mixed in the storm water.

Illicit Discharge Detection and Elimination

Four steps to success: (required for Phase II permit applicants)

1. Develop, implement and enforce a program to detect and eliminate illicit discharges.

- For Phase II this is defined at Sec. 122.26(b)(2) of the Federal Regulations

Illicit Discharge Detection and Elimination

2. Develop storm sewer map
   - Locations of outfalls
   - Names and locations of receiving water bodies
3. Prohibit non-storm water discharges (ordinance)
4. Adopt enforcement procedures

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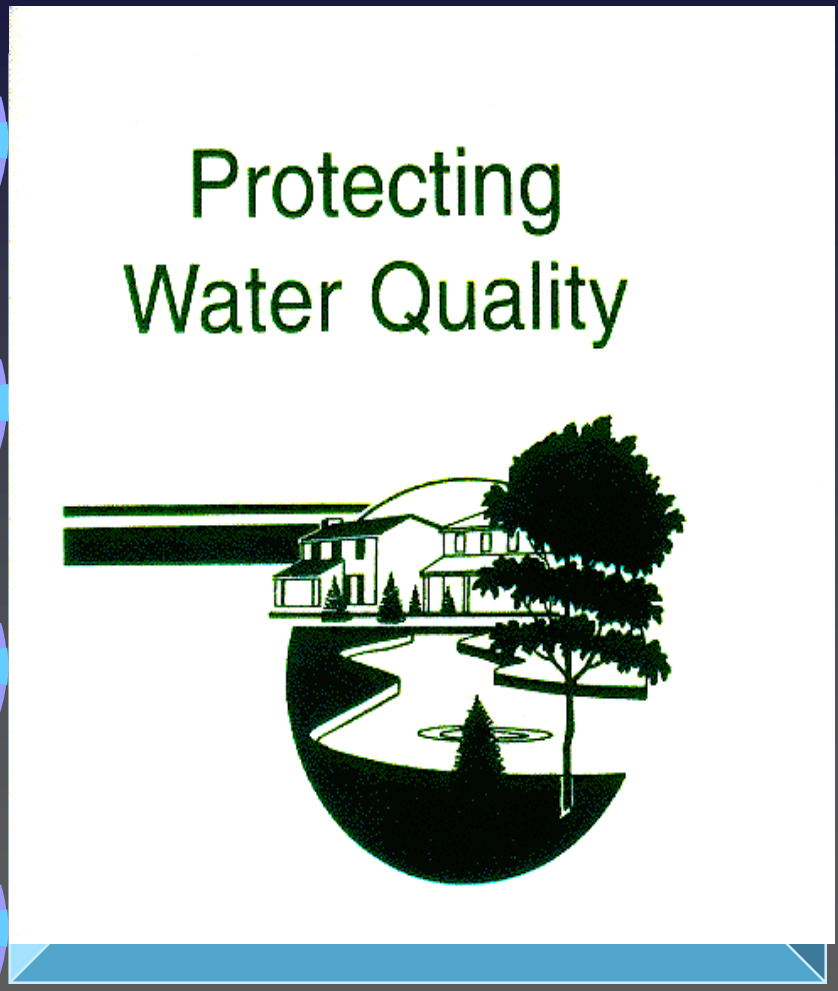
What are the Guidelines?

1. Have ordinance or other regulatory mechanism.
2. Have procedures for site plan review.
3. Have procedures for inspection & enforcement.
4. Have penalties.

What are the Guidelines?

5. Have procedures for information (complaints) submitted by public.
6. Determine appropriate Best Management Practices (BMPs).
7. Control polluted runoff to "Maximum extent practicable"

Storm water Management Techniques



Use best management practices (BMPs)

A field guide to erosion, sediment and storm water best management practices for development sites in Missouri

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Post-construction Storm water Management

If you don't "plan with the end in mind" and then carry through, you will not get good storm water management results when construction is done, no matter how well you do during-construction storm water management.

What are the Guidelines?

1. Strategies for structural and non-structural BMPs (long term plan).
2. Have ordinance or other regulatory mechanism.

What are the Guidelines?

3. Ensure long-term operation and maintenance.
4. Determine appropriate BMPs for your program

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P^2 in Municipal Operations

- Provide services to community - street sweeping, storm and sanitary sewer maintenance, etc.
- Use good housekeeping practices in municipal operations - vehicle, building and grounds maintenance, chemicals handling, etc.
- Use municipal facilities and operations as demonstrations to citizens and businesses of how best to manage storm water.

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What are the Guidelines?

1. Operation and maintenance program for municipal operations
2. Employee training program
3. Determine appropriate BMPs

What are the Guidelines?

Municipal Operations

- Reduce floatables and other pollutants
- Schedules and long-term inspection procedures for controls (structural and non-structural)
- Controls for reducing discharge from roads, parking lots, maintenance and storage yards
- Use good housekeeping practices

What are the Guidelines?

Municipal Operations

- Proper disposal of waste
- Sediment
- Floatables
- Debris

(Reduce, Reuse, Recycle)

What are the Guidelines?

Employee Training Program

- Incorporate pollution prevention into municipal operations
  - Park and open space maintenance
  - Fleet and building maintenance
  - Storm water system maintenance

What Will Your Program Cost?

Minimal program:	$3-5/person/yr
Medium program:	$30/person/yr
Exceptional program:	$50/person/yr

Summary: What is Good Storm water Management?

1. Keep it clean,
2. Get it back into the ground,
3. Convey it gently to stream courses.

Questions?